

ZINGER, N. M.

AID P - 2576

Subject : USSR/Engineering

Card 1/1 Pub. 110-a - 15/16

Author : Zinger, N. M., Kand. Tech. Sci.

Title : ~~CONFERENCE ON RESULTS OF RESEARCH AND EXPERIMENTS IN~~  
Conference on results of research and experiments in  
the field of district heating (Current Events)

Periodical : Teploenergetika, 8, 59-60, Ag 1955

Abstract : The article reports on the conference held in June in  
the All-Union Heat Engineering Institute in  
Dzerzhinskiy and attended by engineers, scientists and  
workers of different institutes, as well as employees  
of the district heat networks in major Soviet cities.  
Some recommendations on distribution and operation of  
networks were made.

Institution : None

Submitted : No date

Subject : USSR/Engineering AID P - 4958  
Card 1/1 Pub. 110-a - 7/21  
Authors : Sokolov, Ye. Ya., Dr. Tech. Sci., Ya. M. Rubinshteyn,  
Dr. Tech. Sci., N. M. Zinger, Kand. Tech. Sci.  
Title : Power and economics of the district heating of large  
cities.  
Periodical : Teploenergetika, 8, 31-38, Ag 1956  
Abstract : The authors present the results of the comparison of  
different district heating systems (open and closed) fed  
from different heat and electric power plants. These  
plants are equipped by turbines of different types, and  
are located at different distances from the city. 7  
tables, 4 diagrams.  
Institution : All-Union Heat Engineering Institute  
Submitted : No date

ANDREYEVA, K.S., inzhener; ZILMER, N.M., kandidat tekhnicheskikh nauk;  
SOKOLOV, Ye.Ya., doktor tekhnicheskikh nauk.

Increasing the capacity of feed pumps by means of water-jet ejectors.  
Elek.sta. 27 no.1:16-20 Ja '56. (MIRA 9:6)  
(Pumping machinery)

ZINGER, N.M.

ZINGER, N.M.

Using hydraulic elevators for water supply and in the construction  
of water pipelines. Vol. 1 san. tekhn. no.12:13-15 D '57. (MIRA 11:1)  
(Pumping machinery) (Water-supply engineering)

ZINGER, N.M.

ZINGER, N.M., kand.tekhn.nauk; ANDREYEVA, K.S., inzhener.

Testing vapor ejector refrigerating apparatus. Prom.energ. 12  
no.10:9-12 0 '57. (MIRA 10:10)

1. Vsesoyuznyy teplotekhnicheskiy institut imeni F.E.Dzerzhinskogo.  
(Refrigeration and refrigerating machinery)

ZINGER, N.M.

SOKOLOV, Ye.Ya., doktor tekhn. nauk; RUBINSHTAYN, Ya.M., doktor tekhn. nauk;

ZINGER, N.M., kand. tekhn. nauk; BUNIN, V.S., inzh.; ANDREYENKO, K.S., inzh.

Selection of a large-capacity turbine for district heating. Teplo-energetika 5 no.4:3-11 ap '58. (MIRA 11:5)

1. Vsesoyuznyy teplotekhnicheskiy institut.

(Steam turbines) (Heating from central stations)

ZINGER N M

96-4-2/24

AUTHORS: Zinger, N.M., (Candidate Tech.Sc.) and Lyakhov, O.G.  
(Candidate Tech.Sc.).

TITLE: Some problems concerning hydraulic conditions of district-heating systems during combined operation of heat and electric power stations. (Nekotoryye voprosy gidravlicheskogo rezhima teplovykh setey pri sovmestnoy rabote TETs)

PERIODICAL: Teploenergetika, 1958, 5 No.4, pp 11-16 (USSR)

ABSTRACT: In the design and operation of district-heating systems in which a number of power stations are connected in parallel on the heating side one of the most difficult questions is calculation of the appropriate hydraulic pressure. The hilliness of the locality, the need to prevent water from boiling in the heating system and the objections to excessive pressure in the power station heaters and in consumers' systems must all be considered. The main problems are those of regulating the flow of water from individual power stations and determining the 'water-sheds' in the supply and return mains (which often do not coincide); also of determining the head on the return headers of various power stations and selecting the point for adding make-up to the system, and so on. These

Card 1/2

96-4-2/24

Some problems concerning hydraulic conditions of district-heating systems during combined operation of heat and electric power stations

questions have never been analysed in a general way although they are of considerable practical importance. The article therefore gives a theoretical analysis of the location of the 'water-shed' in a system of two heat and electric power stations with pumping and throttling sub-stations. Figs. 2 and 3 graph pressures at these two sub-stations. In both cases the position of the 'water-shed' is altered and this changes the quantity of hot water delivered by each power station. A method of determining the best location for pumping or throttling sub-stations is described with reference to the graphs of Fig.4. The article then considers pressure changes on the intake headers of power stations operating in parallel when pumping and throttling sub-stations are included in the heating system. Pressure graphs showing the effect of a number of pumping sub-stations are given in Fig.5 and pressures in a system with three power stations in Fig.6. The hydraulic design of a ring-main

Card 2/2 system as illustrated in Fig.7 is also considered.

There are 8 figures and 1 Russian reference.

ASSOCIATION: All-Union Thermo-Technical Institute. (Vsesoyuznyy Teploekhnicheskii Institut),

AVAILABLE: Library of Congress.

307/96-58-3-6/22

AUTHOR: Zinger, N.M. (Candidate of Technical Science)  
TITLE: Investigation of a Water-air Ejector (Issledovaniye  
vodovozdushnogo ozhektora)  
PERIODICAL: Teploenergetika, 1958, <sup>5</sup>Nr 8, pp 26-31 (USSR)

ABSTRACT: Although water-air ejectors have been used for a long time they have been insufficiently studied, and published methods of design are not well-founded. This article describes recent investigations on water-air ejectors carried out by the All-Union Thermo-Technical Institute. A diagrammatic cross-section of the experimental ejector appears in Fig 1. Water was delivered to the ejector from a centrifugal pump at a measured rate. The air that was ejected was drawn from the room, passing through a measuring nozzle to the receiving chamber of the ejector. A throttle valve regulated the flow of air and the suction pressure. The compressed water-air mixture passed through a regulating valve before discharge. The main parts of the ejector were replaceable and provision was made for accurate assembly. Pressure measurements were taken at four points in the mixing chamber. Tests were made with nozzle diameters of 7, 11 and 16.5 mm. The corresponding ratios of chamber section to nozzle section were 13.8,

Card 1/5

# Investigation of a Water-air Ejector

SOV/96-58-3-6/22

5.6 and 2.5. The jet of water was still cylindrical when it reached the mixing chamber. At a distance of two or three diameters from the chamber inlet, the mixing chamber became filled with a white foam and some reverse flow of this foam could be observed near the chamber wall. Curves of the pressure change along the ejector are given in Fig 2. The pressure at the inlet section of the mixing chamber is the suction pressure, the main pressure rise being in the diffuser. It is evident that the processes in the mixing-chamber of a water-air ejector are different from those in a single-phase jet ejector where the pressure increases because of equalisation of velocity profile of the mixed flow. In designing single-phase jet apparatus, the impulse equation or the particular case of the equation of quantity of motion are very useful. However, in a water-air ejector the mass of the ejected air is much less than that of the water and so does not affect the water velocity. Therefore, formal application of the impulse equation gives rise to difficulty. Exchange of impulse appears to occur between the water jet and the surrounding mass of emulsion in the

Card 2/5

Investigation of a Water-air Ejector

SOV/96-48-8-6/22

mixing chamber; the latter's mass is comparable to that of the water and its velocity is zero. It has not been possible to derive from theory any numerical relations between the specific gravity of this emulsion and the rate of discharge such as could be used for ejector design. However, experimental work has shown that equations derived for water-water elevators can be applied to the design of water-air ejectors provided the factors are appropriately modified. Design equations derived in this way are offered. Equations (5) and (6) give the minimum suction pressures that can be attained with a water-jet ejector of given dimensions and rate of flow; they are valid for evacuation from low pressure and discharge to atmosphere (see dotted lines on Fig 3). For the ejector to operate stably, the pressure on the suction side must exceed these minimum values. Numerical examples are given. The graphs also show that the smaller the ratio of the mixing chamber section to that of the nozzle, the less the water pressure necessary to achieve a given vacuum; however, a reduction of this ratio also reduces the pumping speed. Curves of the maximum pressure-drop developed by a water-air ejector

Card 3/5

Investigation of a Water-air Ejector

SOV/96-58-8-6/22

are given in Fig 4. Agreement between the experimental points and the theoretical curves is good. Characteristic curves for an ejector with a nozzle diameter of 11 mm and an area ratio of 5.6 are given in Fig 5. The characteristics were taken at constant flow-rate and inlet pressure, and increasing values of pressure beyond the ejector and various other conditions. Similar characteristics were obtained for ejectors with nozzles of different diameters. Test results on three ejectors are plotted in generalised co-ordinates in Fig 6. The solid line corresponds to volume ejection coefficients calculated from equation (1) and the dotted line to calculated characteristics for the ejectors under test with three values of area ratio. It is concluded that the ratio of the pressure-drop set up by the ejector to the pressure-drop in the nozzle is a parameter that uniquely determines the volume coefficient of ejection and hence the output of the ejector. Equation (1) gives with reasonable accuracy the achievable volume coefficient of ejection, and equation (3) gives the section ratio necessary to achieve this figure. Special tests were made to study

Card 4/5

Investigation of a Water-air Ejector

SOV/96-58-8-6/22

the influence of water temperature on performance. Increasing the water temperature without altering other conditions raises the suction pressure by an amount corresponding to the increase in the saturated vapour pressure of water at the operating temperature (see Fig 7). It is concluded from the test results that the design equations given are sufficiently accurate for practical purposes when designing a single-jet ejector. Further work will be required to derive design equations for other types of ejector, for example those having multiple jets.

There are 7 figures, 5 literature references (4 Soviet, 1 German)

ASSOCIATION: Vsesoyuznyy teplotekhnicheskiy institut (All-Union Thermo-Technical Institute)

1. Air ejectors--Design
2. Air ejectors--Performance
3. Water--Applications
4. Air ejectors--Test methods

Card 5/5

SOV/96-58-11-8/21

AUTHOR: Berman, I.D., Doctor of Technical Science  
Zinger, N.M., Candidate of Technical Science

TITLE: The Comparison of Various Types of Air Pump for  
Turbine Condensers (Sravneniye raznykh tipov  
vozdukhnykh nasosov dlya kondensatorov turbin)

PERIODICAL: Teploenergetika 1958, Nr 11, pp 47-55 (USSR)

ABSTRACT: The relative merits of different types of air pump are first discussed in general terms. Serious objections can be raised against published technical and economic comparisons between different types of air pump and so the All-Union Thermo-Technical Institute made comparative calculations, the results of which are given below. The special features of the characteristics of different types of air pumps are first discussed and the requirements applicable to air pumps on condensers are considered. The major requirements of air pumps for condensers are that they should maintain a given pressure and should operate without overload - that is, without marked increase in suction pressure when the rate of pumping air is increased. The characteristics of

Card 1/6

SOV/96-58-11-8/21

The Comparison of Various Types of Air Pump for Turbine Condensers

steam jet ejectors have been investigated in some detail in previous work by the same authors. When pumping a saturated steam-water mixture at a given temperature, the characteristic of a steam-jet ejector (plotted as suction pressure against air-pumping speed) consists of two sections, a fairly flat working section from zero up to some definite rate of air flow and an overload section of steeper slope as plotted in Fig.1. The working sections of the characteristics corresponding to different mixture temperatures are practically straight parallel lines, for which a formula is given. When extracting dry air, the characteristic of a steam-jet ejector is similar to that described but the working section corresponds not to constant volume output but to a volume output that increases rapidly with the pumping speed (see Fig.1.). The water-jet ejector, unlike the steam-jet ejector, has a practically constant volume output when extracting dry air and a variable output when extracting steam/water

Card 2/6

SOV/95-58-11-8/21

The Comparison of Various Types of Air Pump for Turbine Condensers

mixture. The characteristics when extracting dry air at different temperatures of the working water are given in Fig.2. Those relating to a saturated steam/water mixture appear in Fig.3. These characteristics depend upon the design and principal dimensions of the ejector and other variables. The relationship between the operation of the ejector and that of the condenser is considerably more complicated than in the case of a steam-jet ejector, since the water-jet ejector, besides its main function, also acts as an additional condenser. The volume output of mechanical vacuum pumps, belonging to the group of volume pumps, diminishes with reduction in the suction pressure. This causes mechanical pumps having a relatively large dead space (dry-piston types and water-seal types) to be of poor characteristics, so that when they are used the steam/water mixture extracted from the condenser must first be compressed to about 0.1 atm by means of an ejector. Special designs of vacuum pumps intended for operating at pressures down to  $10^{-3}$  mmHg have more favourable characteristics which

Card 3/6

SOV/96-58-11-8/21

The Comparison of Various Types of Air Pump for Turbine Condensers

are briefly described. Since the characteristics of water-jet ejectors are quite different from those of steam-jet ejectors and of mechanical pumps, it is not possible to compare the power consumption of different types of air pumps under identical conditions. In making the calculations it was assumed that comparable air pumps should be of equal reliability if the air pumping speed rose above the designed value. Therefore, the suction pressure for a given maximum working output should be the same for all. Under these conditions the suction pressure corresponding to the maximum-rated pumping rate is less for the water-jet ejector than for the steam-jet ejector and mechanical pump (see Fig.5.). The calculations were made with reference to a 100-MW turbine with given steam and vacuum conditions. Two methods of supplying steam-jet ejectors were considered; the power equivalent of the steam consumption was evaluated and the necessary formula is given. The characteristics and location of the

Card 4/6

SOV/96-58-11-8/21

# The Comparison of Various Types of Air Pump for Turbine Condensers

water-jet ejector are indicated. The volume outputs of the mechanical air pumps were the same as for the steam-jet ejectors. The calculated values of power consumption for the different types of air pump under the various conditions considered are tabulated; data are also given about the steam consumption of steam-jet ejectors and the water consumption of water-jet ejectors. It is concluded that mechanical pumps and steam-jet ejectors have the lowest power consumption provided the number of stages is well chosen and the coolers work efficiently. Mechanical air pumps operating with ballast gas have a similar power consumption as steam-jet ejectors and have the advantage of electric drive without the need for steam supply. They pull down initial vacuum quickly. They are, however, complicated and require constant inspection. Water-jet ejectors also use electric power instead of steam and they are simpler in operation than mechanical pumps but their power consumption is greater though they do give a better vacuum due to condensation of steam in the water jet.

Card 5/6

SOV/96-58-11-8/21

The Comparison of Various Types of Air Pump for Turbine Condensers

Because of this they are as economical as other types of pumps. If water-jet ejectors are used, the output of the water purification plant is increased but this too has economic compensations. Further theoretical and experimental study of water-jet ejectors is required to improve their design and to obtain further data about their operating characteristics. There are 6 figures, 1 table and 7 literature references all of which are Soviet.

ASSOCIATION: Vsesoyuznyy teplotekhnicheskii institut  
(All-Union Thermo-Technical Institute)

Card 6/6

PLANNING BOOK EVALUATION 807/597

Университетские институты и специалисты турбинных установок абстракт  
статьи (Department in the Construction and Operation of Turbine Units;  
Collection of Articles) Moscow, Gostekhnizdat, 1959. 500 p. Kinds ally in-  
serted. 1,550 copies printed.

Ms. (Title page) Dr. M. B. Babitskiy, Professor, and A. V. Gubinskiy, Cor-  
responding Member, Academy of Sciences USSR. (Author's name) L. S.  
Gubinskiy, Moscow, U.S.S.R.

NOTE: The book is intended for engineers specializing in the design and op-  
eration of turbine equipment.

CONTENTS: This collection of 22 articles deals with aspects of turbine opera-  
tion, particularly variations in the heat performance of steam turbines  
and comparison of optimum parameters for gas turbines. Turbine test re-  
sults and a number of tables for the accurate determination of turbine  
parameters for specific conditions are included. In particular, the method  
of determining the optimum parameters for gas turbines is discussed.

Babitskiy, M. B., and G. S. Pankov. Investigation of the Forces  
Causing Vibration of Turbine Shafts. 165

The authors examine the problem of vibration of turbine shafts  
when such vibrations are induced by their irregularity. Dependence  
of the frequency of vibration on structural characteristics of  
blading as well as on the nature of their distribution is treated.  
Optimum designs for blading forces and stresses are suggested.

Gubinskiy, A. V. Comparative Analysis of the Damping Properties of  
Shafts and Types of Vibration. 172

Methods of determining the damping properties of shafts and types of  
vibration are analyzed with respect to vibration-damping efficiency.  
Curves are plotted indicating the dependence of damping  
properties on input force.

Gubinskiy, A. V. Determination of the Logarithmic Decrement for  
Vibration Damping by Measuring the Frequency of Natural Vibrations  
Arising from the Natural Damping of Free Vibrations  
and Calculating the Values for the Logarithmic Decrement. 178

The authors discuss the problem of determining the logarithmic  
decrement of free vibrations of a system with damping. The method  
described in the article makes it possible to determine the logarithmic  
decrement of free vibrations of a system with damping by measuring  
the frequency of natural vibrations.

Gubinskiy, A. V. One Example of an Experimental Investigation of  
Mechanical-Type Thrust Bearings. 182

The article deals with test results and methods of testing  
mechanical-type thrust bearings. Several investigation systems  
are described with reference to service reliability and minimum  
friction losses.

Babitskiy, M. B., and G. S. Pankov. Improved Sealing of Condenser Tubes in  
Turbine Units. 189

The article discusses and analyzes several methods and sealing  
materials for preventing condensers from steam leakage. The  
results of the tests are given. Several arguments for "packing" tube ends into tube  
sheets and for sealing water boxes are evaluated.

Gubinskiy, A. V. Methods of Designing Jet Condensers  
Arising from the Need for Condensers and Layouts  
of Engines are Discussed and Design and Calculation Methods Given. 219

The authors discuss the problem of designing jet condensers and  
the layout of engines. The results of the tests are given. Several  
arguments for "packing" tube ends into tube sheets and for sealing water boxes are evaluated.

Babitskiy, M. B., G. S. Pankov, and G. S. Pankov. Results of  
Experimental Testing of a 12-000-A. Turbine. 237

The authors discuss the results of the tests of a 12-000-A. turbine.  
The results of the tests are given. Several arguments for "packing" tube ends into tube  
sheets and for sealing water boxes are evaluated.

Babitskiy, M. B. Selection of the Starting Procedure for a Gas Turbine  
Engine. 255

The authors discuss the problem of selecting the starting procedure  
for a gas turbine engine. The results of the tests are given. Several  
arguments for "packing" tube ends into tube sheets and for sealing water boxes are evaluated.

Babitskiy, M. B. Experimental Study for Testing Gas-Turbine Motors  
for Thermal Station. 261

The authors discuss the problem of testing gas-turbine motors for  
thermal stations. The results of the tests are given. Several  
arguments for "packing" tube ends into tube sheets and for sealing water boxes are evaluated.

Gubinskiy, A. V. Optimal Parameters for Heat Exchangers in  
Turbine Units. 265

The authors discuss the problem of selecting the optimal parameters  
for heat exchangers in turbine units. The results of the tests are given. Several  
arguments for "packing" tube ends into tube sheets and for sealing water boxes are evaluated.

Babitskiy, M. B. Determination of the Most Effective Parameters for  
the Operation of a Gas-Turbine Plant. 275

The authors discuss the problem of determining the most effective  
parameters for the operation of a gas-turbine plant. The results of the tests are given. Several  
arguments for "packing" tube ends into tube sheets and for sealing water boxes are evaluated.

Gubinskiy, A. V. Determination of the Most Effective Parameters for  
the Operation of a Gas-Turbine Plant. 281

The authors discuss the problem of determining the most effective  
parameters for the operation of a gas-turbine plant. The results of the tests are given. Several  
arguments for "packing" tube ends into tube sheets and for sealing water boxes are evaluated.

Gubinskiy, A. V. Determination of the Most Effective Parameters for  
the Operation of a Gas-Turbine Plant. 287

The authors discuss the problem of determining the most effective  
parameters for the operation of a gas-turbine plant. The results of the tests are given. Several  
arguments for "packing" tube ends into tube sheets and for sealing water boxes are evaluated.

ANALYSIS: Library of Congress

ZINGER, N.M.

PHASE I BOOK EXPLOITATION

SOV/4691

Sokolov, Yefim Yakovlevich, and Nikolay Mikhaylovich Zinger

Struynnye apparaty (Jet Apparatus) Moscow, Gosenergoizdat, 1960. 207 p.  
5,000 copies printed.

Ed.: T.A. Kolach; Tech. Ed.: G.Ye. Larionov.

PURPOSE: This manual is intended for the engineering personnel of design and operational organizations and also for students of schools of higher education.

COVERAGE: The book discusses theory and methods for calculating jet apparatus. The basic design equations are illustrated by examples, and a classification of jet apparatus is given. According to the foreword, the authors have attempted to retain a unified approach although the types and applications of apparatus described vary greatly. Along with numerical relationships for determining the optimum parameters and basic dimensions of the apparatus, the authors present equations of the characteristics describing the operation of jet apparatus under a variable regime. Knowledge of characteristics is particularly important in selecting a control system and an efficient regime for utilization of jet

Card 2/6

# Jet Apparatus

80V/4691

apparatus. A large part of the experimental work was performed by the following members of the Laboratoriya teplofikatsii Vsesoyuznogo teploekhnicheskogo instituta imeni Dzerzhinskogo (Thermal Laboratory of the All-Union Heat Engineering Institute imeni Dzerzhinskogo): R. Sazonov, K.S. Andreyeva, R.Kh. Zharova, V.B. Pavlonskiy, and S.Z. Pruslina. The authors thank L.D. Berman, Doctor of Technical Sciences, for advice, and T.A. Kolach, Candidate of Technical Sciences, for editing the book. Ye.Ya. Sokolov wrote chapters 1, 2, 4-6, and 8; N.M. Zinger wrote chapters 3, 7, 9, and 10. There are 101 references: 76 Soviet, 16 German, and 9 English.

## TABLE OF CONTENTS:

### Foreword

Ch. I. General Problems in the Calculation and Design of Jet Apparatus	3
1.1 Basic configuration of a jet apparatus	5
1.2 Development of the theory of a jet apparatus	5
1.3 Classification of a jet apparatus	6
1.4 Gas dynamic functions	9
1.5 Layouts of jet installations	12
	14

Card 2/5

S/096/60/000/012/006/008

E041/E421

AUTHORS: Zinger, N.M., Candidate of Technical Sciences,  
Andreyeva, K.S., Engineer and Vul'man, F.A., Engineer

TITLE: The Design of Multiple-Ring Hydraulic Networks on the  
"Ural" Electronic Computer 16

PERIODICAL: Teploenergetika, 1960, No. 12, pp. 44-52

TEXT: The All-Union Thermal Engineering Institute (VTI) has developed a general purpose programme suitable for calculations on any kind of hydraulic network. Similar uses of the "Ural" computer have been published before (Ref.3). The basic equations are Kirchhoff's for nodes

$$\sum V = 0 \quad (1)$$

and meshes

$$\sum sV^2 = 0 \quad (2)$$

where the latter takes account of the quadratic variation of pipe loss with flow. An arbitrary distribution of water flow is assumed which satisfied Eq.(1). The left-hand side of Eq.(2) will  
 Card 1/3

S/096/60/000/012/006/008  
E041/E421

The Design of Multiple-Ring Hydraulic Networks on the "Ural"  
Electronic Computer

not then equal zero but will represent the non-viscous loss of pressure. This supplementary loss is redistributed and a further calculation made. The process is repeated until the value of the non-viscous loss does not change. Two common situations which give rise to distinctive sub-routines are shown in Fig.1a (an isolated ring) and Fig.1b (two adjacent rings). The method has been applied to a distinct heating system in Moscow consisting of 9 rings (Fig.2). The maximum allowable non-viscous pressure loss is  $500 \text{ kg/m}^2$ . In Fig.2a results are shown for a manual calculation by a skilled computer over a period of 15 hours. The upper figure quoted against each pipe is the initial assumption, the lower figure is the result after seven successive approximations. In Fig.2b the respective figures apply to a machine calculation. Fig.3 is a diagram illustrating the steps in the successive approximation. There are ten such steps and these are described in the text. The corresponding programme schematic is in Fig.4 and refers, of course, specifically to the "Ural" machine. It is

Card 2/3

S/096/60/000/012/006/008  
E041/E421

The Design of Multiple-Ring Hydraulic Networks on the "Ural"  
Electronic Computer

necessary to store within the machine the contents of Tables 1a and 1b giving flows and resistances in each length of pipe. The machine produced the 72 values in Table 2 in 12 minutes. Two sets of answers are given, corresponding to widely different initial assumptions. The effect on the final answer is slight. There are 4 figures, 2 tables and 6 references: 4 Soviet and 2 non-Soviet.

ASSOCIATION: Vsesoyuznyy teploekhnicheskii institut - TsNIIKA  
(All-Union Thermal Engineering Institute - TsNIIKA)

Card 3/3

ZINGER, Nikolay Mikhaylovich; DNITRIYEV, I.V., nauchn. red.

[Calculation and modeling of hydraulic conditions in  
thermal networks] Raschet i modelirovanie gidravlich-  
skikh rezhimov teplovykh setei. Moskva, Energiia, 1964.  
183 p. (MIRA 17:9)

ZINGER, N.M., kand. tekhn. nauk; MIRKINA, A.I., inzh.

Choice of reference conditions and operating modes of the lead-in  
centralized heat supply. Elek. sta. 36 no.9:31-35 S '65.

(MIRA 18:9)

ZINGER, N.M., kand. tekhn. nauk

Qualitative and quantitative regulation of closed heat supply systems.  
Teploenergetika 11 no.8, 62-66 Ag '64. (MIRA 18/7)

1. Vsesoyuznyy teplotekhnicheskiy institut.

ZINGER, N.M.

Jet-type preheaters. Energetik. 13 no.2:28 P 165.

(MIRA 18:6)

ZINGER, N.M., kand. tekhn. nauk; ANDREYEVA, K.S., inzh.

Study of the characteristics of power entrance to consumers  
with series connection of hot water supply heaters. Elek  
sta. 35 no.10:23-28 0'64. (MIRA 17:12)

AL'TSHUL', Adol'f Davydovich; ZINGER, N.M., red.; LARIONOV, G.Ye.,  
tekhn. red.

[Hydraulic friction losses in pipelines] Gidravlicheskie  
poteri na trenie v truboprovodakh. Moskva, Gosenergoizdat,  
1963. 255 p. (MIRA 16:5)  
(Pipelines--Fluid dynamics)

SHCHUKIN, V.K.; KALMYKOV, I.I.; ZINGER, N.M., kand. tekhn.nauk,  
retsenzent; FAL'KO, O.S., inzh., red.; EL'KIND, V.D., tekhn.  
red.

[Gas ejectors]Gazostruinye kompressory. Moskva, Mashgiz,  
1963. 145 p. (MIRA 1648)

(Compressors)

ZINGER N.Y.

AUTHORS: Sokolov, Ye. Ya. (Dr. Tech.Sc.), Rubins (Dr. Tech.Sc.), Zinger, N.Y. (Cand. Tech.Sc. (Engineer) and Andreyeva, K. S. (Engineer).  
TITLE: The Selection of a High Power Turbine for District Heating (Vybor tipa teplofikatsionnoy turbiny dlya moshchnosti)

PERIODICAL: Teploenergetika, 1958, No. 4, pp 3-11. (USSR)

ABSTRACT: Heat-supply turbines produced for steam conditions of 90 atms and 500 C, comprise types BT-25, with controlled district-heating pass-out at a pressure of 1.2-2.5 atms, and BMT-50, with two regulated steam pass-outs at pressures of 1.2-2.5 and 13±3 atms. Their performance does not satisfy modern requirements for district-heating of large towns. It is important to increase the amount of steam generated. It is important to increase the prime efficiency of heat and electric power stations; the prime need in these systems is to increase the amount of electric power generated. District-heating turbines should be 50 and 100 MW, with initial steam conditions of 130 atms and 565 C, as now used for condensing sets. Many investigators have shown that electrical output can be raised by adopting multi-stage heating of system-water instead of using only the pressure of 1.2 atms. If

The Selection of a High Power Turbine for District Heating Plants. 96-4-1/24

possible, the lower limit of steam pressure in the pass-out should be 0.5 atms. The pressure of the lower pass-out may be constant under all conditions, except nearly pure condensing conditions, or may be increased to 0.8-0.9 atms as suggested by B. V. Rudomino. It would be also advisable to provide for utilisation in the winter period of the ventilating flow of steam to the condenser. This steam can be used to heat make-up water in open heat-supply systems or to heat returned water in closed systems. Possible types of turbine are discussed. The present practice of having comparatively high reduction factors in urban district-heating stations gives a very high heat-loading on pass-out turbines and a very high steady electrical load throughout almost the entire heating season. Therefore, later stages of system-water heating could be supplied with steam from unregulated tapplings. When the district-heating station is located out of town, the pressure level in the outermost unregulated tapping in the water system could be limited to about 4 atms. When the station is a considerable distance from the centre of the thermal load, a pressure of the order of 14-16 atms may be advisable in the last unregulated

Card 2/7

The Selection of a High Power <sup>/Turbine for</sup> District Heating Plants. 96-4-1/24

tapping on the run of water. The use of reheat in heat-supply stations gives less economy than it does in ordinary condensing stations. Nevertheless, reheat is advantageous in turbines with pass-outs at 0.5, 1.5 and 4 atms; it is inadvisable for turbines with pass-out pressures greater than 0.5- 2 - 6 - 16 atms. The manufacture of two types of 50 and 100 MW heat-supply turbines is recommended. One is a turbine with initial steam conditions of 130 atms, 565°C, with reheat only on the 100 MW size; the lower limit of pass-out pressure should be 0.5 atms, with unregulated district-heating pass-outs of 1.5 and 4 atms. This turbine is denoted  $\Pi BT_{0.5-4}$ . The second type of turbine has the same initial steam conditions without reheat and the same lower limit of pass-out pressure of 0.5 atms but with unregulated pass-outs for district heating at 2.0, 6.0 and 16.0 atms. This turbine will be denoted  $\Pi BT_{0.5-16}$ .

To evaluate these two types, calculations were made of steam flows from the pass-outs and of steam flows in the turbine sections; also of live steam consumption  
Card 3/7 for various ambient temperatures, temperature curves and

The Selection of a High Power Turbine for District Heating Plants. 96-4-1/24

systems of heat supply, etc. In comparing different types of turbine it was assumed that they supplied a region of the same calculated thermal loading. Since the turbine is designed for conditions in which the flow of steam to the condenser is a minimum, the requisite turbine power will vary for different systems of heat supply and temperature gradients, and in no case does it correspond to the standard output of turbo-generator. In comparing efficiencies of different types of turbine this is unavoidable and immaterial. The standard thermal loading of the district was taken as 400 M kcal/hr, of which half is provided for by pass-out steam; a boiler house provides for the remainder and for peak loads. The turbine designs were carried out for the thermal circuits shown in Figs. 1 and 2. For both turbines the feed water was assumed to be heated to a temperature of 232°C. The steam pressures in the low-pressure regenerative tappings corresponded to those for district-heating schemes. The efficiencies of the turbines were calculated in a way very similar to that formalised by the firm of General Electric in 1952. For turbine type BT<sub>0.5</sub> - 16, the

Card 4/7

The Selection of a High Power <sup>/Turbine for</sup> District Heating Plants. 96-4-1/24

only case considered was that of stations outside towns, which requires that the system water be heated to  $180^{\circ}\text{C}$ . For turbine  $\Pi\text{BT}_{0.5-4}$  the case considered was that of a series circuit comprising the peak boiler-house, the district-heating heaters and a station alternatively in or out of town. Temperature and water-flow graphs for the closed systems are given in Figs. 3 and 4 for both types of turbine. To compare these variants in respect of fuel consumption, the electrical outputs were equated in all cases to 135 MW. The respective fuel consumptions, obtained with identical thermal and electrical loadings, are given in Table 1, which shows that the use of turbine  $\Pi\text{BT}_{0.5-4}$  instead of turbine  $\Pi\text{BT}_{0.5-16}$  gives a fuel economy of about 5%. For turbine  $\Pi\text{BT}_{0.5-4}$  the fuel consumption is about 1% less when the system water temperature is  $150^{\circ}\text{C}$  than when it is  $180^{\circ}\text{C}$ . The comparison also shows that for the same thermal and electrical loads turbine  $\Pi\text{BT}_{0.5-4}$  has 7% less fuel consumption than turbine  $\Pi\text{BT}_{0.5-16}$ . A technical and economic comparison is then made between the different types of heat-supply turbine. The pros and cons of using the two kinds of turbines in an out-of-town station are discussed at some

Card 5/7

The Selection of a High Power District Heating Plants. 96-4-1/24  
/Turbine for

length. The advisability of installing one or the other depends on the amortisation time of the additional cost of the more expensive turbine, and a formula is given to determine this time. The main calculations were made for a district with a maximum thermal loading of 400 M kcal/hr, and ambient air temperatures of -36, -30 and -22°C. Table 2 gives annual fuel economy figures for various climatic regions and various heat-supply systems resulting from the installation of a turbine type ПБТ<sub>0.5-4</sub> with the given thermal and electrical loads. The table shows that this turbine saves more fuel than turbine type ПБТ<sub>0.5-16</sub>. Calculations are also made for the open circuit system of heat-supply. The case of an out-of-town station and a peak boiler house in the town is considered. Calculations were made of the extra initial costs of the heating system with series connection of the power station and peak boiler house as compared with parallel connection. The results are given in Table 3. Graphs of the amortisation time of the initial costs against the radius of service of the thermal circuit are given in Fig. 5 and Card 6/7 relate to the climatic conditions of Moscow, with turbines

The Selection of a High Power Turbine for District Heating Plants. 96-4-1/24

НБТ<sub>0.5-4</sub> and НБТ<sub>0.5-16</sub>. Similar figures were also found for other climatic conditions. As the ambient temperature gets lower and the number of hours of utilisation of the installed thermal capacity of the station increases, the amortisation time of the additional capital expenditure decreases slightly. Only two factors have a major influence on the choice of type of turbine; the initial outlay and the fuel consumption. The use of turbine type НБТ<sub>0.5-4</sub> instead of НБТ<sub>0.5-16</sub> gives about 5% overall fuel economy but greater capital cost. Assuming the climatic conditions of Moscow, and amortisation over five years, the field of application of turbine type НБТ<sub>0.5-4</sub> is indicated in Table 4 for several sizes of heating system. In most cases turbine НБТ<sub>0.5-4</sub> is more suitable and therefore recommended for development

Card 7/7 in outputs of 50 or 100 MW.

There are 5 figures, 4 tables and 2 Russian references.

ASSOCIATION: All-Union Thermo-Technical Institute. (Vsesoyuznyy Teploekhnicheskiy Institut).

AVAILABLE: Library of Congress

TIMOFEYEV, G.I.; ZINGER, O.M.

Volumetric odometrical method of determining inorganic sulfide  
sulfur in sedimentary rocks. Zav. lab. 31 no. 12:1448 '65  
(MIRA 19:1)

1. Nizhnevolzhskiy nauchno-issledovatel'skiy institut geologii  
i geofiziki.

ZINGER, O.M.; MUSTAFIN, I.S.; KUL'BERG, L.M. [deceased]

Methods of identification of aromatic amines. Uch.zap. SGU  
75:102-107 '62. (MIRA 17:3)

CZECHOSLOVAKIA

KANDRAC, M.S., EIEFANT, E., ZINGER, P., VALIK, A., and MOTLIK, K., Laboratory for Endocrinology and Metabolism (Laborator pro endokrinologii a metabolismus), Faculty of General Medicine (Fakulta vseobecneho lekarstvi), Charles University, Prague, Academician J. CHARVAT [MD], director; Third Pediatric Clinic (III. detska klinika), Faculty of General Medicine, Charles University, Prague, Prof. O. VYCHYTIL, MD, director; and Second Institute of Pathological Anatomy (II. patologickoanatomicky ustav), Faculty of General Medicine, Charles University, Prague, Prof. V. JEDLIČKA, MD, director [individual affiliations cannot be determined].

"Some Problems of Adrenocortical Function in the Adrenogenital Syndrome Associated With a Breakdown of the Salt Metabolism."

Prague, Casopis Lekaru Ceskych, Vol CII, No 41, Prague, 11 October 63, pp 1119-1125.

Abstract [Authors' English summary]: The following substances in the highest concentration were found in a four-month old boy suffering from adrenogenital syndrome and a breakdown of the salt metabolism in the urine: 11-keto-pregnane-3 alpha, 17 alpha, 20 alpha-triol; pregnane-3 alpha, 17 alpha-diol-20-on; pregnane-3 alpha, 20 alpha-diol and tetrahydrocortisone. Traces of tetrahydrocortisol appeared in the urine only on the second day after ACTH stimulation. Discussed.

1/2

ZINGER, P.

2 children with phenylketonuria with normal intelligence. Czech.  
pediat. 18 no.8:698-700 Ag '63.

1. III detska klinika fakulty vseobecneho lekarstvi KU v Praze,  
prednosta prof. dr. O. Vychytil.  
(PHENYLKETONURIA) (INTELLIGENCE)

KURIN, N. V., ZINGER, P. N.

Gas Producers

Testing transport vehicles' gas generators burning wood of increased moisture content.  
Avt. trakt. prom.; No. 2, 1952.

Monthly List of Russian Accessions, Library of Congress, June 1952, UNCLASSIFIED.

BONDARTSEV, A. S. ZINGER, R. A.

Fungi

Directions for gathering of higher forms of basidial fungi for scientific examination.  
Trudy Bot. inst. AN SSSR., Ser. 2, No. 6, 1950.

Monthly List of Russian Accessions, Library of Congress, June 1952. UNCLASSIFIED.

ZINGER, R. A.

Fungi

New bases for classification of *Panus* and the related genera. Trudy Bot. inst. AN SSSR., Ser. 2, No. 6, 1950.

Monthly List of Russian Accessions, Library of Congress, June 1952. UNCLASSIFIED.

ZINGER, RA.

Fungi

Naucoria Fries and related general in the U. S. S. R. Trudy Bot. inst. AN SSSR,  
Ser. 2, No. 6, 1950.

Monthly List of Russian Accessions, Library of Congress  
June 1952. UNCLASSIFIED.

ZINGER, R. A.

Fungi

Investigation of the genus Amanita in the U.S.S.R. Trudy Bot. inst. AN SSSR, Ser. 2,  
No. 6, 1950.

Monthly List of Russian Accessions, Library of Congress  
June 1952. UNCLASSIFIED.

157 017 340 406840

PROCESSES AND PROPERTIES INDEX

LP 9

Briquetting blast-furnace flux dust and metal shavings.  
 H. I. Rabinov and M. A. Zinger. Russ. 28,568, Feb. 56.  
 824. The briquettes are prepd. by drying a mixt. of dust,  
 metal shavings, clay,  $\text{CaCO}_3$ ,  $\text{NaCl}$  and C dust.

ASIA-51A METALLURGICAL LITERATURE CLASSIFICATION

SECOND DIVISION

SECOND - 2P ONLY USE

BRILLSTONE

157 017 340 406840

10251

S/169/62/000/007/132/149  
D228/D307

3.2420

AUTHOR:

Zinger, S. F.

TITLE:

Nature and origin of the earth's radiation belts,  
their relation to the density of upper atmospheric  
layers and their geophysical effects

PERIODICAL:

Referativnyy zhurnal, Geofizika, no. 7, 1962, 9-10, ab-  
stract 7G60 (Tr.Mezhdunar. konferentsii po kosmich.  
lucham, v. 3, M., AN SSSR, 1960, 59-68)

TEXT: The distribution of the particle density with altitude in  
the planetary atmosphere is considered. At a certain altitude the  
average free run of particles becomes level with the height scale,  
this means that from this level particles experience practically  
no collisions with each other. This region is called the exosphere.  
For the earth the exosphere's lower boundary is located at a height  
of 530 km. Here the atmosphere consists mainly of oxygen atoms;  
their concentration is  $\sim 4 \times 10^7 \text{ cm}^{-3}$ . It is pointed out that the  
usual method of ascertaining the particle density distribution is  
Card 1/3

S/169/62/000/007/132/149  
D228/D307

Nature and origin ...

based on the assumption of thermodynamic equilibrium in the atmosphere and is unsuitable for the exosphere, since the distribution of the directions of particle velocities ceases to be isotropic at great distances from the earth. A report is given about some results of the theory developed by the author; it is based on the study of the statistical distribution of particle orbits in the exosphere. According to the data of satellite drag the temperature at the exosphere's lower boundary can be taken as equalling  $\sim 15000\text{K}$ . A graph of the atomic oxygen concentration's dependence on the height (in the range 400 - 1000 km) is given. Proceeding from the theory for the formation of the earth's inner corpuscular radiation belt, the author finds that at a height of 1000 km the upper limit of atomic hydrogen concentration equals  $\sim 10^6 \text{ cm}^{-3}$ . The duration of the existence of particles, trapped in the outer radiation belt, is determined (in the absence of magnetic disturbances) by their reaction with ions, electrons, and neutral atoms of the atmosphere's upper layers. Calculations showed that the magnetic effects, related to the drift of particles trapped in the inner and outer belts,

Card 2/3

Nature and origin ...

S/169/62/000/007/132/149  
D228/D307

is insufficient to explain the magnetic field disturbances observed on the ground. Therefore, the author reckons that geomagnetic disturbances are related to the capture of solar protons, moving at a speed of  $\sim 2 \times 10^8$  cm.sec<sup>-1</sup>, i.e. with an energy of  $\sim 20$  kev. Injection becomes possible thanks to the reaction of the solar plasma cloud with the geomagnetic field, which results in the latter's distortion. Owing to this, particles can penetrate into the entrapment region generally inaccessible to them. It is shown that the length of the life of trapped particles is largely governed by the exchange of charges. Proceeding from the duration of the principal phase of magnetic storms, it is estimated that the density of neutral hydrogen atoms is about  $100 \text{ cm}^{-3}$  at a distance of 5 - 8 earth radii. Protons and electrons, remaining in the entrapment region after most of the captured particles have left it, must be accelerated to much higher energies in order that they may induce auroras. It is supposed that this acceleration is due to magneto-hydrodynamic waves. An attempt is made to apply these deliberations for explaining the initial revertive pulse at the time of sudden out-breaks of magnetic storms. 13 references. [Abstracter's note: Com-plate<sub>3</sub> translation.]

S/169/62/000/003/087/098  
D228/D301

3. 2400

AUTHOR: Zinger, S. F.

TITLE: Interplanetary dust

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 3, 1962, 4, abstract 3G31 (V sb. Nauchn. ispol'zovaniye iskusstv, sputnikov Zemli, M., Izd-vo in. lit., 1960, 381-399)

TEXT: A simple theory is developed for the movement of charged particles of interplanetary dust in the vicinity of the earth. The following questions are considered: 1) The mean charge of dust particles; 2) diurnal and nocturnal effects; 3) the effects of solar flares; 4) the resulting hardness spectrum; 5) movement in geomagnetic and gravity fields, and the Louisville theorem; 6) the detected orbits and accumulations of particles; and 7) flows and collision zones, and the effects of magnetic storms. The main conclusions of the problems cited above are being applied to possible experimental investigations in rockets or satellites of: a) The dependence of the

Card 1/2

Interplanetary dust

S/169/62/000/003/087/098  
D228/D301

inflow of dust particles on the geomagnetic latitude; b) the latitudinal relationship's geophysical application; c) the diurnal intensity variations; and d) the electromagnetic conditions near the earth, changes in the inflow of particles, and anisotropy. Some suggestions are made for explaining the variance between meteor data and optical measurements for the densities of interplanetary dust particles. The problem of dust particle accumulation is briefly considered. [Abstracter's note: Complete translation.]

Card 2/2

S/035/62/000/006/007/064  
A001/A101

3.2420

AUTHOR: Zinger, S. F.

TITLE: The nature and origin of Earth's radiation belts, their relation to density of upper atmospheric layers and geophysical effects

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 6, 1962, 33, abstract 6A267 ("Tr. Mezhdunar. konferentsii po kosmich. lucham, 1959, v. 3". Moscow, AN SSSR, 1960, 59-68)

TEXT: The following problems are discussed in detail: change of gas density in the exosphere and hydrogen concentration at altitudes over 1,000 km. In connection with the solution of the second problem, processes are discussed which take place in the inner and outer radiation belts, as well as in the belt of magnetic storms, and geophysical effects related to the latter. There are 16 references.

I. Shch.-S.

[Abstracter's note: Complete translation]

Card 1/1

GRUZIN, Vadim Georgiyevich; ZINGER, S.L., red. 1zd-va; VAYNSHTEIN,  
Ye.S., tekhn. red.

[Temperature conditions in steel casting] Temperaturnyi rezhim  
lit'ia stali. Moskva, Metallurgizdat, 1962. 350 p.

(MIRA 15:12)

(Steel--Metallurgy)

(Liquid metals--Thermal properties)

ZINCHER, S.Sh.

Capital investments and fixed assets of the sugar industry, Sakh.  
prom. 31 no.11:42-44 N '57. (MIRA 11:1)

1. Kuzgorsovnarkhoz.

(Sugar industry)

TARASOVA, N.N.; POTANIN, N.V.; SHOKINA, N.I.; GRIN'-YATSENKO, Z.M.;  
ZINGER, T.I.

Clinical aspects and treatment of coli dyspepsia in infants. Sov.  
med. 24 no.6:54-59 Je '60. (MIRA 1349)

1. Iz kafedry gosital'noy pediatrii (zar. - deystvitel'nyy chlen  
AMN SSSR prof. A.F. Tar) Leningradskogo pediatricheskogo meditsin-  
skogo instituta na baze detskogo otdeleniya Oblastnoy klinicheskoy  
bol'nitsy (glavnyy vrach - na sluzhennyy vrach RSFSR A.P. Yegorova).  
(ESCHERICHIA COLI) (DYSPEPSIA)

ZINGER, Y.F. [Zinher, Kh.M.]; SANDLER, E.S.

Some results of industrial testing of polyacrylamide for yarn  
sizing. Leh.prom. no.3:29-32 JI-S '63. (MIRA 16:11)

DOLGORUCHENKO, L., inzh.; ZINGER, Ye.

Machines for adding carbanide and molasses to mixed feeds and feed mixtures. Muk.-elev. prom. 30 no.3:15-20 Mr '64. (MIRA 17:4)

1. Nauchno-issledovatel'skiy institut zhivotnovodstva lesostepi i poles'ya UkrSSR (for Dolgoruchenko). 2. Khar'kovskaya mashinoispytatel'naya stantsiya (for Zinger).

ZINGER, Ye., inzh.

AZhT-2 hot air ventilation unit, Muk.-elev. prom. 27 no.8:17-18  
Ag '61. (MIRA 14:7)

1. Khar'kovskaya mashinoispytatel'naya stantsiya.  
(Corn (Maize)--Drying))

*ZINGER, Ye*  
SUPRUNOV, A., inzhener; ~~ZINGER, Ye.~~ inzhener.

Equip flour and groats mills with heating installations. Muk.  
elev.prom. 20 no.12:28-29 D '54. (MENA 8:3)

1. Khar'kovskiy trest Glavmuki.  
(Flour mills)

ZINGER, Ye.

Poorly designed mixed feed sections for flour mills in operation.  
Muk.-elev.prom. 22 no.3:7-8 Mr '56. (MIRA 9:7)

1. Khar'kovskiy trest Glavmuki.  
(Feed mills)

ZINGER, Ye., inzh.; SUPRUNOV, A., inzh.

Efficiency improvement at mills of the Kharkov Cereal Products  
Office. Muk.-elev. prem. 24 no.10:18-20 0 '58. (MIRA 11:12)

1.Khar'kovskoye upravleniye khleboproduktov.  
(Kharkov--Grain milling)

SUPRUNOV, A., inzh.; ZINGER, Ye., inzh.

Plan for a sack-repair shop at the granary. Mult.-elev.prom. 25  
no.3:24-25 Mr '59. (MIRA 12:6)

1. Khar'kovskoye upravleniye khleboproduktov.  
(Bagging) (Granaries--Equipment and supplies)

ZINGER, Ye.; IS'YEMINI, I.; COL'NDSKAYA, Yu.

Testing the TPSh screw conveyer under working conditions. Muk.

-elev. prom. 27 no.12:23-24 D '61.

(MIRA 15:2)

1. Khar'kovskaya mashinopyspytatel'naya stantsiya.  
(Conveying machinery)

ZINGER, Ye.

ZINGER, Ye. inzhener.

Improving the operation of ventilating equipment. Muk. elev.  
prom. 21 no.2:30 F '55. (MIRA 8:3)

1. Khar'kovskiy trest Slavmuki.  
(Fans, Mechanical)

KOGAN, A.; ZINGER, Ye., inzh.

Drying seed corn at grain procurement points in Moldavia and  
Kharkov Province. Mak.-elev. prom. 24 no.8:16-17 Ag '58.

(MIRA 11:10)

1. Zamestitel' direktora po kachestvu Kishinevskoy realizatsionnoy  
bazy (for Kogan). 2. Khar'kovskoye oblastnoye upravleniye khlebo-  
produktov (for Zinger).

(Corn (Maize)--Drying)

ZINGER, Ye., inzh.; GOLANDSKAYA, Yu., inzh.; D'YANKONOV, A., inzh.

Improve the structural features and performance of small feed mills.  
Muk.-elev. prom. 27 no.6:21-23 Je '61. (MIRA 14:6)

1. Khar'kovskaya mashinoprytel'naya stantsiya Goskomiteta zagotovok  
Soveta Ministrov SSSR (for Zinger, Golandskaya). 2. Kaluzhskoye  
upravleniye zagotovok (for K'yankonov).  
(Feed mills)

ZINGER, Ye., inzh.

Changes improving the performance of ZGS grain loaders. Muk.-  
elev. prom. 27 no.2:21-22 F '61. (MIRA 14:4)

1. Khar'kovskaya mashinoispytatel'naya stantsiya Goskhlebkomiteta.  
(Grain-handling machinery) (Loading and unloading)

ZINGER, Ye.M.; FIL'KIN, V.A.

Lake Baskunchak needs protection. Priroda 53 no.2:88-93  
'64. (MIRA 17:2)

1. Institut geografii AN SSSR, Moskva.

ZINGER, Ye. M.

Excursion of personnel of the Institute of Geography of the U.S.S.R.  
Academy of Sciences. Izv. AN SSSR, Ser. geog. no.5:159 8-0 '60.

(MIRA 13:10)

(Physical geography—Study and teaching)

AVSYUK, G.A.; ZINGER, Ye.M.; KORYAKIN, V.S.; KOTLYAKOV, V.M.

In memory of Georgii Alekseevich Ushakov, 1901-1963.

Izv. AN SSSR. Ser. geog. no. 2:173-174 Mr-Ap '64.  
(MIRA 17:5)

ZINGER, Ye.M.; KORYAKIN, V.S.

The 50th anniversary of the discovery of Severnaya Zemlya.  
Izv. AN SSSR. Ser. geog. no.6:95-101 N-D '63.

(MIRA 17:1)

1. Institut geografii AN SSSR.

ZINGER, Ye.M.; ENGEL'GARDT, V.V.; YABLONSKIY, O.A. [deceased];  
AVSYUK, G.A., otv. red.; OGANOVSKIY, P.M., red.

[Novaya Zemlya: Snow cover] Novaya Zemlia: Sneshnyi pokrov.  
Moskva, (Its Materialy gliatsiologicheskikh issledovani).  
No.1. [Stationary observations at the Ledorazdel'naya and  
Bar' er Somneniy Stations] Statsionarnye nabludeniia na  
stantsiiakh Ledorazdel'naya i Bar' er Somnenii. 1962. 131 p.  
No.2. [Field observations] Marshrutnye nabludeniia. 1962.  
103 p. (MIRA 16:3)

1. Akademiya nauk SSSR. Institut geografii.  
(Novaya Zemlya—Snow)

ZINGER, Yevgeniy Maksimovich; MITIN, R.S., red.; KONOVALYUK, I.K.,  
mladshiy red.; VILENSKAYA, E.N., tekhn. red.; BURLAKA, N.P.,  
tekhn. red.

[On the glaciers of Novaya Zemlya; notes of a member of the  
expedition] Na lednikakh Novoi Zemli; zapiski uchastnika ek-  
speditsii. Moskva, Gos. izd-vo geogr. lit-ry, 1962. 157 p.  
(MIRA 15:4)

(Novaya Zemlya--Discovery and exploration)

ZINGER, Ye.Ye.

Conditions governing the use of mine waters for human needs in coal  
mines. Glg. 1 san. 24 no.9:81 S '59. (MIRA 13:1)

1. Iz Stalinskoy gorodskoy sanitarno-epidemiologicheskoy stantsii.  
(MINE WATER)

ZINGER, Ye.M.; KORYAKIN, V.S.

Recent glaciation of Severnaya Zemlya. Izv. Vses. geog. ob-va  
96 no.6:471-479 N-O '64 (MIRA 18:1)

ZINGER, Ye. Ye.

ZINGER, Ye. Ye., sanitarnyy vrach.

Some aspects of preventive sanitary inspection in coal industry.  
Gig. 1 san. 22 no. 5:59-61 My '57. (MIRA 10:10)

1. Iz Stalinskoy gorodskoy sanitarno-epidemiologicheskoy stantsii  
(MINER,  
prev. sanit. measures in coal mines (Rus))

ZINGER, Ye. Ye.

ZINGER, Ye. Ye., sanitarnyy vrach.

Some aspects of preventive sanitary inspection in coal industry.  
Gig. 1 san. 22 no.5:59-61 Ky '57. (MIRA 10:10)

1. Iz Stalinskoy gorodskoy sanitarno-epidemiologicheskoy stantsii  
(MINER,  
prev. sanit, measures in coal mines (Rus))

YUZANOVA, N.A., sanitarnyy vrach; ZINGER, Ye.Ye., sanitarnyy vrach

Improving working conditions in plants for the production of high-grade electrodes. Gig. i san. 22 no.1:80-81 Ja '57. (MLRA 10:2)

1. Iz sanitarno-epidemiologicheskoy stantsii Stalino  
(INDUSTRIAL HYGIENE,  
in electrode prod. plants (Rus))

ZINGER, Ye.Ye. (Stalino)

Causes of the spread of pneumokoniosis among miners of different  
collieries. Gig. truda i prof. zab. 4 no.4:47 Ap '60. (MIRA 15:4)

1. Donetskii institut fiziologii truda.  
(COAL MINERS--DISEASES AND HYGIENE)  
(LUNGS--DUST DISEASES)

ONOPKO, B.N., otv. red.; NAVAETIKYAN, A.O., zam. otv. red.;  
BLAGOVESHCHENSKAYA, I.N., red.; VEREZHNIKOVA, A.V., red.  
GALUSHKA, F.P., red.; ZINGER, Ye.Ye., red.; LYUBIMOV,  
V.Ye., red.; NAKSIMOVICH, V.A., red.; OKUN', M.I., red.

[Basic problems of hygiene, industrial physiology and occupational pathology in the leading branches of Donets Basin industries; scientific session of May 1964; abstracts of the reports] Osnovnye voprosy gigieny, fiziologii truda i professional'noi patologii v vedushchikh otraslyakh promyshlennosti Donbassa; nauchnaya sessiya, mai 1964 g.; tezisi dokladov. Donetsk, 1964. 147 p.

(MIRA 18:1)

1. Donetsk. Nauchno-issledovatel'skiy institut fiziologii truda.

GOLOVCHENKO, V.P.; ZINGER, Yu.A.

Choice of a method for feeding a substance into the gap between  
the electrodes of the light source. Fiz.sbor. no. 4:464-468  
'58. (MIRA 12:5)

1. Kiyevskiy gosudarstvennyy universitet imeni T.G. Shevchenko.  
(Spectrum analysis)

Zinger, Y.A.

24(7)

PLATE I BOOK EXPLANATION

24(7)  
L'vov. Universitet

Materials of the 10th All-Union Conference on Spectroscopy, 1956.  
1. XI: Atomnaya spektroskopiya (Materials of the 10th All-Union Conference on Spectroscopy, 1956. Vol. 2: Atomic Spectroscopy).  
L'vov: L'vovskogo univ., 1958. 568 p. (Series: It's  
Vychislennyi sbornik, vyp. 4(9)). 3,000 copies printed.

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po  
spektroskopii.

Editorial Board: G.S. Landsberg, Akademik (Resp. Ed.);  
L.S. Reppert, Doctor of Physical and Mathematical Sciences;  
L.S. Fabelinskii, Doctor of Physical and Mathematical Sciences;  
V.A. Fabrikant, Doctor of Physical and Mathematical Sciences;  
V.G. Koritskiy, Candidate of Technical Sciences; S.M. Kayukiy,  
Candidate of Physical and Mathematical Sciences; L.K. Klimovskiy,  
Candidate of Physical and Mathematical Sciences; V.S. Klyamnikov  
(Deceased), Doctor of Physical and Mathematical Sciences; A.S.  
Ginzburg, Doctor of Physical and Mathematical Sciences;  
M.I. S.K. Gaser, Tech. Sci.; V.V. Savitskiy.

Purpose: This book is intended for scientists and researchers in  
the field of spectroscopy, as well as for technical personnel  
using spectrum analysis in various industries.

Contents: This volume contains 177 scientific and technical studies  
of atomic spectroscopy presented at the 10th All-Union Conference  
held in L'vov, 1956. The studies were carried out by  
scientists of scientific and technical institutes and included  
extensive bibliographies of Soviet and other sources. The  
studies cover many phases of spectroscopy: spectra of rare earths,  
electromagnetic radiation, physicochemical methods for controlling  
uranium production, physical and technology of gas discharges,  
optics and spectroscopy, abnormal dispersion in metal vapors,  
spectroscopy and the combustion theory, spectrum analysis of ores  
and minerals, photographic methods for quantitative spectrum  
analysis of metals and alloys, spectral determination of the  
hydrogen content of metals by means of isotopes, tables and  
atlases of spectral lines, spark spectrographic analysis and  
statistical study of variation in the parameters of calibration  
curves, determination of trace elements, spectrum analysis in  
metallurgy, thermometry in metallurgy, and principles and  
practice of spectrochemical analysis.

Card 2/31

24(7)

Materials of the 10th All-Union Conference (Cont.)

24(7)

1. XI: Atomnaya spektroskopiya (Materials of the 10th All-Union Conference on Spectroscopy, 1956. Vol. 2: Atomic Spectroscopy).

24(7)

Analysis Method for Open-hearth Slags

24(7)

1. XI: Atomnaya spektroskopiya (Materials of the 10th All-Union Conference on Spectroscopy, 1956. Vol. 2: Atomic Spectroscopy).

24(7)

Spectral Lines 3006.72 and 3020.00 Å

24(7)

Selection of the Method of

24(7)

Feeding Samples into the Infrared Spectrometer

24(7)

Use of Moving Carbon

24(7)

Electrodes in the Analysis of Powders and Solutions

24(7)

Quantitative Spectrum Analysis

24(7)

of Elements for  $Al_2O_3$ ,  $Fe_2O_3$ ,  $SiO_2$ ,  $CaO$ , and  $CaF_2$

24(7)

Spectrum Analysis of Refractory Clays and

24(7)

and Chamosite Marbles

24(7)

Method for Quantitative Spectrum Analysis of

24(7)

Refractory Clay for Calcium, Magnesium, Titanium, and Iron

24(7)

Analyses

24(7)

Card 25/31

FOZIN, Ya.; SUB OTIN, A.; YALOVY, G., Inzh.; ZINGER, Z.

Readers' letters. MEO 3 no.11:63 N '61. (MIR 14:10)

1. Predsedatel' soveta nauchno-tekhnicheskogo obshchestva Kuznetskoy obuvnoy fabriki Penzenskogo sovmarkhoza (for ...)
2. Zamestitel' predsedatelya Latviyskogo pravleniya Nauchno-tekhnicheskogo obshchestva sel'skogo i lesnogo khozyaystva (for Subbotin).
3. Predsedatel' oblastnogo pravleniya Nauchno-tekhnicheskogo obshchestva gorodskogo khozyaystva i avtotransporta (for Zinger).

(Research, Industrial)

ZINGER, Z.; ORLOVSKIY, I. (Orel); MATOV, N.; FEDOTENKO, N.; ORLENIN, A.;  
insh.; BARANOV, V.

Each enterprise should have a primary organization of the  
scientific technological society. NTO 2 no.4:60 Ap '60.  
(MIRA 13:6)

1. Predsedatel' Kuybyshevskogo oblastnogo pravleniya nauchno-  
tekhnicheskogo obshchestva gorodskogo khozyaystva i avtotransporta  
(for Zinger). 2. Predsedatel' soveta pervichnoy organizatsii  
Nauchno-tekhnicheskogo obshchestva Mzhayskogo lesopromkhoa,  
Moskovskaya oblast' (for Matov). 3. Zamestitel' predsedatelya  
TSentral'nogo pravleniya Nauchno-tekhnicheskogo obshchestva mashino-  
stroitel'noy promyshlennosti (for Fedotenko).  
(Technical societies)

RABINOVICH, M.V.; ZINGER, Z.E.

In the Scientific and Technical Society. Avt.dor. 24 no.4:31 Ap  
'61. (MIRA 14:5)

(Highway research)

FLESKOW, N. & ZINGERENKO, A.

Teknika Łączności Dalekosieźnej (Technology of Long Distance Communication). Wydawnictwo Ministerstwa Obrony Narodowej, Warsaw, 1955.

This book discusses transmission of electrical signals in the field of telecommunications. It discusses methods of developing a system of long distance communication.

USSR/~~Electronics Transmission~~ *ZINGERENKO, A.M.*

FD-2670

Card 1/2

Pub. 90-2/12

Author : Zingerenko, A. M., Active Member, VNORIE

Title : ~~Determination of the length of time of increase of transient functions by means of the amplitude-frequency characteristics of transmission systems~~  
: Determination of the length of time of increase of transient functions by means of the amplitude-frequency characteristics of transmission systems

Periodical : Radiotekhnika, 10, 8-20, Jul 55

Abstract : Formulas are derived for determination of the ascending period of transient functions by means of the amplitude-frequency characteristics of transmission systems. The transient functions are examined for cases when dc, ac, and fluctuating-frequency potentials are applied. Simple relationships are established between the duration of transient functions and the amplitude-frequency characteristics of the system. Determination of the duration of the ascending portion of a transient function is of prime importance for evaluation and comparison of various methods of signal transmission by telegraph, television, and phototelegraph. The analysis is based on the fact that the major part of the ascending portion of the transient function is linear,

Card 2/2

FD-2670

Abstract : thus permitting a simplified, approximation solution. Graphs.  
Five references: all USSR.

Institution : All-Union Scientific and Technical Society of Radio Engineering  
and Electric Communications imeni A. S. Popov (VNORIE)

Submitted : May 28, 1953

ZINGERENKO, A.M.

Distortion of telegraph signals in a voice-frequency telegraph channel under the effect of impulse noise. Elektrosvar' 10 no.6: 63-70 Je '56. (MLRA 9:8)  
(Telegraph) (Modulation (Electronics))

ZINGERENKO, A.M.

Category : USSR/Radiophysics - Application of radiophysical methods

I-12

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 2077

Author : Zingerenko, A.M.

Title : Distortion of Duration of Telegraph Pulses under the Influence of Fluctuation Noise in a Frequency-Modulation System

Orig Pub : Radiotekhnika, 1956, 11, No 3, 70-80

Abstract : An equation is derived for the change in frequency resulting in the transmission of f-m signals and under the influence of fluctuation noise, and the mean-squared errors in the duration of the telegraph pulses are determined. It is shown that the mean-squared errors depend on the filter bandwidth, on its ratio to the frequency deviation, and on the speed of telegraphy. The optimum ratio is determined for the receiver filter bandwidth to the frequency deviation necessary to reduce the mean-squared errors under the influence of fluctuation noise to a minimum.

Card : 1/1

*ZINGERENKO, A.M.*

Category : USSR/Radiophysics - Application of radiophysical methods

I-12

Abs Jour : Ref Zhur - Fizika, No 1, 1957 No 2078

Author : Zingerenko, A.M.

Title : Distortion of a Telegraph Pulse in a Tonal-Telegraphy Channel Under the  
Influence of Pulse Type Noise.  
Elektrosvyaz' 11 no.2:33-42, 1957

Abstract : Discussion of distortion in a-m and f-m channels. It is shown that the distortion of pulse duration is independent of the channel bandwidth in the case of pulse-type noise. The attenuation of pulse-duration distortion is 3.5 times greater in an f-m channel than in an a-m channel.

Card : 1/1

ZINGARENO, A.M., Doc Tech Sci (diss) "Transition processes and impulse  
distortions in the channels of ~~telephony~~ <sup>radio</sup> ~~transmission~~ <sup>the effect of interference,</sup>  
instability of ~~carrying~~ <sup>carrying</sup> frequencies and selective fading." [Mos], 1958.  
15 pp (Min of Communications USSR. Doc ~~Science~~ <sup>abstract</sup> Engineering Inst of Communi-  
cations), (M, 31-58, 102)

-41-

ZINGHERKO, A.M.

Determining the steepness of amplitude growth, the initial phase, and frequency at the output of an electric filter in the case of their sudden change at the input of the filter. Radiotekhnika 8 no.6:3-13 N-D '53.

(MIRA 11:6)

(Electric filters)

ZINGERENKO, A.M.

Vzaimoe odnoi parallel'noi tsepi na druguiu pri nesoglasovannykh nagruzkakh.  
(Elektrosviaz', 1941, no. 3, p. 69-70)

Title tr.: The interaction between two parallel lines when the loads are not matched.

TK4.E744 1941

S9: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955

**ZINGEREVICH**

**THE INFLUENCE OF THE NATURE OF THE SOLVENT ON THE SOLUTION OF SYNTHETIC RUBBER FROM ITS MIXTURES IN RECLAIMING.** V. Andreev and T. Zingerevich. *J. Rubber Ind.* (U. S. S. R.) 1936, No. 11, 1174-85. -- The swelling of a vulcanized Na-butadiene rubber mixt. of rubber 100, S 5, Agente 0.5 in various solvents for 72 hrs. at room temp. was studied. The mixt. swelled most in halogenated hydrocarbons, and the greater the no. of halogen atoms the greater the swelling. Chlorinated compds. had greater swelling power than brominated compds. The longer the side chain in aromatic hydrocarbons, the greater the swelling. The soly. of the vulcanizate was studied by adding 2 g. to 200 cc. of solvent in a special app., letting stand for 24 hrs. at room temp., then boiling for 72-182 hrs., removing samples of liquid every 6 hrs., and detg. the viscosity and the proportion of solute. Turpentine had the greatest solvent power. No simple relation was evident between the solvent power and the swelling power. A. Pestoff

**ASS-SLA METALLURGICAL LITERATURE CLASSIFICATION**

**SECTION 1**

**SECTION 2**

**SECTION 3**

**SECTION 4**

**SECTION 5**

**SECTION 6**

**SECTION 7**

**SECTION 8**

**SECTION 9**

**SECTION 10**

**SECTION 11**

**SECTION 12**

**SECTION 13**

**SECTION 14**

**SECTION 15**

**SECTION 16**

**SECTION 17**

**SECTION 18**

**SECTION 19**

**SECTION 20**

**SECTION 21**

**SECTION 22**

**SECTION 23**

**SECTION 24**

**SECTION 25**

**SECTION 26**

**SECTION 27**

**SECTION 28**

**SECTION 29**

**SECTION 30**

**SECTION 31**

**SECTION 32**

**SECTION 33**

**SECTION 34**

**SECTION 35**

**SECTION 36**

**SECTION 37**

**SECTION 38**

**SECTION 39**

**SECTION 40**

**SECTION 41**

**SECTION 42**

**SECTION 43**

**SECTION 44**

**SECTION 45**

**SECTION 46**

**SECTION 47**

**SECTION 48**

**SECTION 49**

**SECTION 50**

**SECTION 51**

**SECTION 52**

**SECTION 53**

**SECTION 54**

**SECTION 55**

**SECTION 56**

**SECTION 57**

**SECTION 58**

**SECTION 59**

**SECTION 60**

**SECTION 61**

**SECTION 62**

**SECTION 63**

**SECTION 64**

**SECTION 65**

**SECTION 66**

**SECTION 67**

**SECTION 68**

**SECTION 69**

**SECTION 70**

**SECTION 71**

**SECTION 72**

**SECTION 73**

**SECTION 74**

**SECTION 75**

**SECTION 76**

**SECTION 77**

**SECTION 78**

**SECTION 79**

**SECTION 80**

**SECTION 81**

**SECTION 82**

**SECTION 83**

**SECTION 84**

**SECTION 85**

**SECTION 86**

**SECTION 87**

**SECTION 88**

**SECTION 89**

**SECTION 90**

**SECTION 91**

**SECTION 92**

**SECTION 93**

**SECTION 94**

**SECTION 95**

**SECTION 96**

**SECTION 97**

**SECTION 98**

**SECTION 99**

**SECTION 100**

ZINGHERMAN, A.; ROTSHTYIN, L.; SHKATYERT, L.

The "Baikal" radio phonograph. Radio no. 5:27-31 My '57.  
(Phonograph) (MLHA 10:6)

"Radio Receiver 'Baykal,'" by A. Zingerman, L. Rotshcheyn and  
L. Shcheyrt, Radio, No 5, May 57, pp 27-31

The Bardsk Radio Plant is beginning the production of a new six-tube superheterodyne radio receiver and phonograph combination "Baykal." This set is designed for reception of AM and VHF-FM radio on the following wave bands: LW--150 to 415 kc; MW--520 to 1,600 kc; SW--8.5 to 12.1 Mc and 3.95 to 7.5 Mc; and VHF-FM--64.5 to 73 Mc.

The power consumption of the set is 45 w and the output of the receiver is 2 w; sensitivity varies from 30 to 80 microvolts, and the image channel selectivity varies from 20 to 40 decibels. Only five tubes are used in the AM reception, and then have the following functions: tube 6J1P functions as a local oscillator and mixer, 6K4P as an IF amplifier, 6K2P as a demodulator, 6N2P and 6P14P as power amplifiers. The tube 6N3P is used in VHF-FM reception, and functions as a RF amplifier and converter.

The intermediate frequencies used in the set are: 465 kc for AM reception and 8.4 Mc for VHF-FM reception. The tube 6K2P generally performs the functions of two tubes, i.e., it combines detection for both AM and FM reception.

The receiver chassis and two 1-GD5-III loudspeakers are mounted in a wooden cabinet, 520 X 350 X 363 mm. The receiver has a piezoelectric sound pick-up and recording device. Several ferrite cores are incorporated into this receiver. (U)

Sum in 1451